

Abstract

The present invention relates to absorbent cores for absorbent articles, which are intended to receive and retain bodily discharges such as urine. Such articles are disposable hygiene articles like baby diapers, training pants, adult incontinence articles, feminine care articles and the like. The improvement essentially is based on the recognition that replacing most or all of the cushioning fibrous absorbent material in an absorbent core by a liquid storage material capable of retaining liquid while maintaining or improving acquisition behavior is desirable as the reduction in cushioning is more than compensated by the gain in comfort. The comfort however can only be achieved if the more fundamental requirements of a diaper in respect to liquid handling are satisfied or improved. Especially if this liquid handling performance is improved beyond the performance of conventional absorbent structures in order to allow creation of thinner and drier absorbent articles, the users of such articles would experience them as providing a more than expected comfort improvement relative to the thinness gain. To provide such absorbent cores and articles made therewith only became possible with the development of new highly absorbent gel materials capable of acquiring, conducting, and storing liquids in here-to-fore unexpected perfection at super absorbent polymer concentrations, which are unknown today. The second aspect allowing this breakthrough development is the ability to maintain the comfort and performance of such high super absorbent polymer concentration articles during the full usage cycle of the article, from dry to fully loaded, especially by improving the ability of the cores to withstand the forces experienced by such articles during use. This ability to remain intact is also often referred to as wet integrity of the core and its improvement is an important objective of the present invention.